

CLAIMS

The following listing of claims replaces all prior versions and listings of claims in the above-referenced application:

- 1 1. (Currently amended) A rate adaptive system for optical fibre-
2 based communication networks comprising:
3 a plurality of optical transceivers capable of transmitting and receiving optical
4 signals at a plurality of rates to each other, and
5 an optical fibre linked to said optical transceivers, said system configured to
6 cause said optical transceivers to transmit and receive optical signals at an initial rate
7 and to adapt said initial rate based upon an error condition responsive to ~~an optical~~
8 ~~signal parameter~~ a failure to synchronize a received signal to a transmitted signal by
9 causing said optical transceivers to transmit and receive at a different rate, ~~wherein~~
10 a rate of data being forwarded per unit time ~~is being~~ adjusted by inserting invalid data
11 which can be identified and ignored by a downstream process, ~~wherein said initial~~
12 rate is lowered according to a predefined percentage of said initial rate in response to
13 said failure to synchronize a received signal to a transmitted signal to avoid the
14 overhead associated with auto-negotiation methods that operate over a control
15 channel.

- 1 2. (Canceled)

- 1 3. (Previously presented) The system of claim 1, wherein said system
2 is further configured to calculate an error coefficient based on said received signals,
3 and said error condition comprise said error coefficient exceeding a predefined range.

- 1 4. (Canceled)

- 1 5. (Currently amended) The system of claim 4 1, wherein said
2 percentages are selected from the group of 75, 50 and or 25 percent of said initial rate.

1 6. (Previously presented) The system of claim 1, wherein said initial
2 rate is 10 Gb/s.

1 7. (Previously presented) The system of claim 1, wherein said system
2 is configured to operate in an optical Ethernet network.

1 8. (Previously presented) The system of claim 1, wherein said system
2 is further configured to notify a network operator in the event of said error condition.

1 9. (Currently amended) A rate adaptive method for operating an
2 optical communication network, comprising:
3 transmitting data at an initial rate,
4 receiving said data at said initial rate,
5 evaluating said data responsive to a failure to synchronize a received signal to
6 a transmitted signal parameter observed on an optical signal to determine if an error
7 condition exists, and
8 adapting said rate based upon said evaluation by transmitting and receiving at
9 a different rate, ~~wherein transmitting and receiving comprises~~ by inserting invalid
10 data which can be identified and ignored by a downstream process, ~~wherein adapting~~
11 said rate comprises lowering said initial rate according to predefined percentages of
12 said initial rate in response to said failure to synchronize a received signal to a
13 transmitted signal to avoid the overhead associated with auto-negotiation over a
14 control channel.

1 10. (Canceled)

1 11. (Currently amended) The method of claim ~~10~~ 9, further
2 comprising notifying a network operator in the event of said error condition.

1 12.-13. (Canceled)

1 14. (New) The system of claim 1, wherein said system is further
2 configured to identify a link in the optical fibre-based communication networks for an
3 upgrade.

1 15. (New) The method of claim 9, further comprising identifying a
2 link in the optical communication network for an upgrade.